



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,902	12/21/2000	Junichi Asada	201163US2S	6347

22850 7590 04/14/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

CHU, CHRIS C

ART UNIT	PAPER NUMBER
----------	--------------

2815

DATE MAILED: 04/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,902

Applicant(s)

ASADA, JUNICHI

Examiner

Chris C. Chu

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on January 30, 2003 has been received and entered in the case.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oshino et al. in view of Lamson et al.

Regarding claim 28, Oshino et al. discloses in Figs. 1 and 2 a semiconductor memory device comprising:

- a semiconductor element (3);
- a plurality of lead wires (5) connected to a plurality of connecting electrodes (4) formed on said semiconductor element;

- at least a single dummy lead wire (5B) that is not electrically connected to said semiconductor element and does not include an outer lead portion for electrically connecting said semiconductor element to an external circuit of said semiconductor element;
- an insulating film (6) having an opening portion configured to accommodate said semiconductor element and to support said plurality of lead wires connected to the plurality of connecting electrodes of the semiconductor element and said at least the single dummy lead wire; and
- a resin molding (7) configured to cover a connecting portion between tip portions of the plurality of lead wires and the plurality of connecting electrodes and a tip portion of said at least the single dummy lead wire within the opening portion of said insulating film,
- wherein said at least a single dummy lead wire (5B, right) is arranged in a space defined by two adjacent lead wires of said plurality of lead wires so that a length of said space is at least twice a minimum pitch between adjacent lead wires of said plurality of lead wires, and
- wherein at least two adjacent dummy lead wires (5B, left) provided on one side of said insulating film.

Oshino et al. does not disclose tip portions of the at least two adjacent dummy lead wires connecting to each other on the semiconductor element. However, Lamson et al. discloses in Fig. 1 and Fig. 3 tip portions of the at least two adjacent dummy lead wires (32 or 34) connecting to each other on the semiconductor element (40). Thus, it would have been obvious to one of

Art Unit: 2815

ordinary skill in the art at the time when the invention was made to modify Oshino et al. by connecting the two adjacent dummy lead wires as taught by Lamson et al. The ordinary artisan would have been motivated to modify Oshino et al. in the manner described above for at least the purpose of providing added support to the encapsulated package (column 4, lines 1 and 2).

4. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oshino et al. in view of Candelore.

Oshino et al. discloses in Figs. 1 and 2 a semiconductor memory device comprising:

- a semiconductor element (3);
- a plurality of lead wires (5) connected to a plurality of connecting electrodes (4) formed on said semiconductor element;
- at least a single dummy lead wire (5B) that is not electrically connected to said semiconductor element and does not include an outer lead portion for electrically connecting said semiconductor element to an external circuit of said semiconductor element;
- an insulating film (6) having an opening portion configured to accommodate said semiconductor element and to support said plurality of lead wires connected to the plurality of connecting electrodes of the semiconductor element and said at least the single dummy lead wire; and
- a resin molding (7) configured to cover a connecting portion between tip portions of the plurality of lead wires and the plurality of connecting electrodes and a tip portion of said at least the single dummy lead wire within the opening of said insulating film,

Art Unit: 2815

- wherein said at least a single dummy lead wire (5B, right) is arranged in a space defined by two adjacent lead wires of said plurality of lead wires so that a length of said space is at least twice a minimum pitch between adjacent lead wires of said plurality of lead wires, and
- wherein a dummy lead wire (5B) is formed on each of two opposing sides of said semiconductor element.

Oshino et al. does not disclose tip portions of the dummy lead wires positioned to face each other being connected to each other to form a straight dummy lead wire.

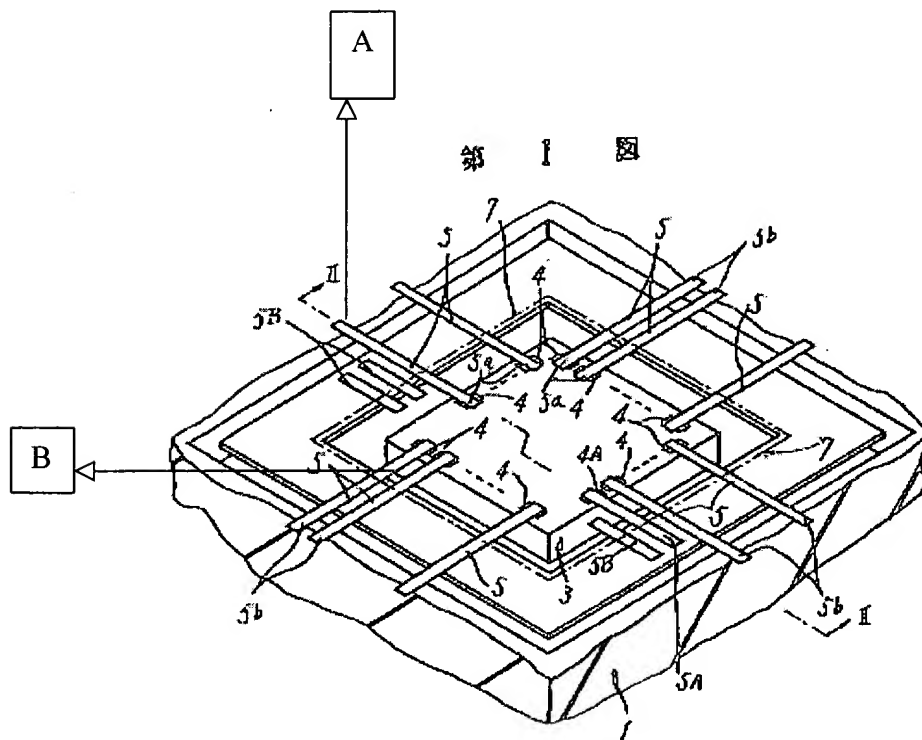
However, Candelore discloses in Fig. 4 tip portions of lead dummy wires (420 and 430) positioned to face each other being connected to each other to form a straight dummy lead wire (421). Thus, it would have been obvious to one of ordinary skill in the art at the time when the invention was made to modify Oshino et al. by connecting the two dummy lead wires as taught by Candelore. The ordinary artisan would have been motivated to modify Oshino et al. in the manner described above for at least the purpose of deterring to probe of the micro-electronic component (column 3, lines 51 and 52).

Response to Arguments

5. Applicant's arguments with respect to claim 28 have been considered but are moot in view of the new ground(s) of rejection.

Further, applicant's arguments filed on January 30, 2003 with respect to claim 29 have been fully considered but they are not persuasive.

On page 4, applicant argues "claim 29 recites that at least a single dummy lead wire is arranged in a space defined by two adjacent lead wires such that a length of a space formed by the two adjacent lead wires is at least twice a minimum pitch between the adjacent lead wires. As discussed above, Oshino et al. not teach or suggest this feature." This argument is not persuasive. Oshino et al. discloses in Fig. 1 at least a single dummy lead wire (5B) being arranged in a space defined by two adjacent lead wires (A and B) such that a length of a space formed by the two adjacent lead wires is at least twice a minimum pitch between adjacent lead wires of said plurality of lead wires. For the above reason, the rejection is maintained.



Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris C. Chu whose telephone number is (703) 305-6194. The examiner can normally be reached on M-F (10:30 - 7:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7722 for After Final communications.

Art Unit: 2815

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Chris C. Chu
Examiner
Art Unit 2815

c.c.
April 8, 2003



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800